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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,719	07/28/2006	Tsuyoshi Maegawa	038788.57892US	2032

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EXAMINER
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ROBINSON, LAUREN E

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,719	<b>Applicant(s)</b> MAEGAWA, TSUYOSHI	
	<b>Examiner</b> LAUREN ROBINSON	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>28 July 2006</u>  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being obvious over Sanichi et al. (US Publication No. 2003/0119647) in view of Kawazu et. Al (US Patent No. 5,976,678).

Sanichi et al. teach a ceramic color composition (abstract) that can be used in automobile glass (Pg. 2, Par. 0015) and this use is characterized by forming the ceramic color composition on the glass by using a ceramic color paste (Pg. 1, Par. 0003 and (Pg. 2, Par. 0017). Furthermore, the reference teaches that the ceramic composition is comprised of a glass frit comprising silica and zirconia (Pg. 4, Par. 0049-0051) as well as an inorganic pigment (Pg. 2, Par. 0020). The reference teaches that the inorganic pigment can be any inorganic pigment such as a combination of green and black pigments (Pg. 5, Par. 0069). Sanichi et al. also disclose that the final glass is observed from the surface on which no color composition is printed (Pg. 8, Par. 0104). Furthermore, they teach that the goal of the color composition is to block sunlight (Pg. 5, Par. 0070). However, Sanichi et al. is ***silent with regard to in a L\*a\*b color system, the glass having a transmitted color with the value of a\* being -10.0 to 0 and a reflected color of the ceramic color layer as observed from the exterior of the***

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***glass being at values of  $L^* \leq 30.0$ ,  $-10.0 \leq a^* \leq 0$  and  $-2 \leq b^* \leq 8$  and the combination of green and black pigment discussed above, having the green pigment present at 30 to 80 wt % of the total combination.***

**Regarding claims 1 and 6:**

Consider in a  $L^*a^*b$  color system, the glass having a transmitted color with the value of  $a^*$  being  $-10.0$  to  $0$  and a reflected color of the ceramic color layer as observed from the exterior of the glass being at values of  $L^* \leq 30.0$ ,  $-10.0 \leq a^* \leq 0$  and  $-2 \leq b^* \leq 8$ .

Kawazu et al. teach a colored composition comprised of silica, zirconia (abstract) and inorganic pigment (Col. 2, lines 38-40) to be placed on a vehicle window (Col. 2, lines 57-65). The examiner notes that the composition is considered ceramic due to ceramic materials being present such as zirconia. Kawazu et al. also teach that the colored film is on the interior side of the window in order to minimize damage to the film (Col. 2, lines 60-67). Optical properties are measured from the glass surface opposite the film side of the window (Col. 16, lines 33-38) which the examiner notes will be on the vehicle exterior side. The reference teaches that the measured optical properties for a vehicle window were related to a  $L^*a^*b$  color system (Col. 4, lines 33-68), wherein the article preferably has a transmitted light color of  $a = -5$  to  $10$  and  $b = -15$  to  $6$  and a lightness of  $L = 20$  to  $90$  (Claim 4) in order to produce a colored glass with high UV absorption power (Col. 4, lines 10-13), UV screening performance (Col. 3, lines 65-67) and low UV transmittance (Col. 4, lines 50-54).

The examiner notes that both Sanichi et al. and Kawazu et al. disclose color glass compositions comprised of a ceramic material for vehicle window glass wherein the

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composition is specifically comprised of inorganic pigment, silica and zirconia.

Furthermore, they both teach that the properties are observed from the side of the glass opposite the film composition. The examiner also notes that both references are concerned with the way the light hits said windows. For example, both references desire UV screening properties such as the blocking of sunlight in Sanichi et al. which corresponds to low UV transmission in Kawazu et al.. As such, it would have been obvious to one of ordinary skill in the art to further modify Sanichi et al. to include the teaching of Kawazu et al that the film should be present on the inside of the vehicle glass to minimize damage and then be observed on the exterior side of the vehicle window and that the optical properties based on the  $L^*a^*b$  color system should have a transmitted color with the value of  $a^*$  being -5.0 to 10 and a reflected color of the ceramic color layer as observed from the exterior of the glass being at values of  $L^*=20-90$ ,  $-10.0 \leq a^* \leq 0$  and  $-15 \leq b^* \leq 6$  in order to produce a colored glass with enhanced UV screening properties such as low UV transmission which would therefore perform the function of blocking sunlight.

Consider the combination of green and black pigment discussed above, having the green pigment present at 30 to 80 wt % of the total combination and 60 to 80% of the total combination

Sanichi et al. also teach that the overall inorganic pigment is in an amount of 10 to 40% of the composition due to the amount of pigment affecting the optical properties of concealing the glass, i.e.: blocking sunlight (Pg. 5, Par. 0070). The examiner notes that this teaching illustrates that the amount of pigment is a result-effective variable because

Sanichi teaches If the amount of pigment is less than 10%, the fired film has insufficient concealing ability, and if the content of pigment exceeds 40% poor film formation results. It is well-known that the amount of pigment in a film composition will predictably change the optical properties of the film. Therefore, it is the examiner's position that through routine experimentation the desired optical and physical properties of the article can be achieved by optimizing the amounts of the pigment.

Furthermore, while Sanichi et al. specifically discusses the overall pigment combination amount, they do not specifically disclose the amount of each pigment within the combination. However, it is the examiner's position that due to the result effective relationship as discussed, one would know that the amounts of the individual pigment ingredients within the overall pigment could also be optimized while maintaining the overall combination in a 10 to 40% range within the composition in order to change the overall optical properties even minutely.

Therefore, the examiner believes that it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sanichi et al. to include that the amount of the individual pigments within the taught combination, could be optimized to include any values such as the green pigment being at 30 to 80% or even 60 to 80% of the overall in order to obtain desired optical properties **(Claims 1 and 6)**.

**Regarding claims 2-3, 5 and 7:** Sanichi et al. also teach that the color paste is comprised of a low melting point glass frit (Pg. 5, Par. 0072) and as discussed above, the composition is comprised of a pigment combination **(Claim 2)**. Furthermore, the reference teaches that the glass is present in the composition in a range of 50 to 90%

and as discussed above, the pigment is present at 10 to 40%. Therefore, the applicants' ratio of glass to pigment being 80:20, would be incorporated within the above teaching. For example, if 80% of glass and 20% of pigment was used in the composition (**Claim 3**). Also, the reference teaches that the green pigment can be comprised of chromium oxide (Pg. 5, Par. 0069) (**Claim 5**). Furthermore, the reference teaches that the inorganic pigment can be comprised of compounds used singly or in combination (Pg. 3, Par. 0027) and as discussed above, the inorganic pigment is taught to be capable of consisting of a combination of green and black pigment (Pg. 5, Par. 0069) (**Claim 7**).

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Sanichi et al. and Kawazu et. Al (US Patent No. 5,976,678) as applied to claim 1 above, in view of Chiba (US Patent No. 6,362,119).

As discussed above, Sanichi et al. teach a ceramic color paste to be used on automotive window glass wherein the ceramic paste is comprised of green and black color pigment and a glass frit. It was also determined obvious by Kawazu et al. previously that the pigments could be in combination with each other in the applicants' claimed percentages and that the L\*a\*b values claimed could be advantageously present. Sanichi et al. also teach that the black pigment can be a combination of copper oxide and chromium oxide. However, the modified teaching of Sanichi et al. is silent with regard to the black pigment comprising a mixture of chromium oxide, copper oxide and manganese oxide.

Chiba et al. teach ceramic color paste for automobile windows (Col. 1, lines 5-10) wherein the paste is comprised of a glass frit (Col. 1, lines 27-32) and an inorganic

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pigment such as a black pigment comprising Cu-Cr-Mn-O which is used for heat resistance.

Sanichi et al. and Chiba disclose analogous inventions related to a ceramic color paste composition comprising a glass frit and a black inorganic pigment wherein the paste is used on automobile windows. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Sanichi et al. to include that the black pigment could be that of Cu-Cr-Mn-O in order to have a pigment that resists heat (**Claim 4**).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAUREN ROBINSON whose telephone number is (571)270-3474. The examiner can normally be reached on Monday to Thursday 6am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-2721284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lauren E. T. Robinson  
Examiner  
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